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ON THE CENTRAL LACERATION OF THE PERINEUM DURING LABOR.

NOTHING is more common than the laceration of the posterior commissure of the vulva, extending more or less to the perineum, during accouchment. It constitutes one of the most simple of surgical injuries, and but rarely requires particular treatment. But this laceration sometimes affects the inferior extremity of the posterior wall of the vagina, the perineum in its entire extent, as far as, and even including, the sphincter of the anus, and the anus itself to a certain extent. In this degree it constitutes a very serious injury, and one to which a special lecture will be devoted. In the present we have only to treat of the perforation or central laceration of the perineum, without any lesion of the comnissure of the vulva, or anal sphincter, and of the passage of the infant, umbilical cord, and placenta, through the opening thus formed. The chronicles of medicine present us with many examples of this occurrence; nevertheless distinguished writers, whose opinion is authority in obstetrics, considering an accouchment of this nature as a geometrical impossibility according to the disproportions which exist between the dimensions of the perineum and the volume of the mature fœtus, have thence inferred that the facts related by authors were merely erroneous assumptions, deserving no confidence whatever. It is indeed difficult to conceive how a part, which is ordinarily but eighteen lines in extent, can lend itself to such an amplification as to permit the passage of so voluminous a body as that of the nascent child. But this mode of reasoning is almost an insult to nature, which daily shows us multitudes of phenomena, the causes and mechanism of which are still beyond our knowledge. If the fact exist, the examination of the ways and means which it employs is, for us, only a secondary object, which science nevertheless should turn to its own profit. A case then which has recently presented itself, and the history of which I shall relate, can leave no doubt any longer even with the most prejudiced on the subject, and will corroborate the anterior observations of the authors whose veracity has been impugned by the scepticism of modern accoucheurs.

Old Cases.

The oldest fact of this kind on record, does not appertain to the human species, but was observed by the immortal Harvey in a grey mare belonging to the Queen of England, which animal for her rare beauty had been tied up in such a manner as to defend her from the approaches of the horse; but whether the precaution was too late, or whether in despite of the precaution, the mare nevertheless became impregnated, and the term of gestation having arrived, the foal was expelled through the centre of the perineum, leaving the commissure of the vulva and sphincter ani entire. (*Exercitationes de Generat. Animal.*)

1. In 1778, Nedey, a surgeon of Besançon, sent to the Academy of Surgery a case of rupture of the central part of the perineum, in which he stated the infant and appendages were expelled without laceration of the vagina or sphincter. This fact, which excited the astonishment of the Academy, only seemed doubtful, says Baudelocque, to those persons who were ignorant of the extent which the developement of the perineum is susceptible of attaining during parturition.

2. Another well-known case is that recorded by Coutonly. On the 13th of January, 1788, this celebrated accoucheur was sent for to the house of Madame Luizerne, to attend a lady named Leroy, whom he had delivered the preceding year of twins of five and a half months. 'This female,' says Coutonly, 'seemed to me at the very instant of parturition. The head of the child pressed continually and powerfully against the perineum, which was so distended that all my aim was to prevent its laceration; but my precautions were useless; the central part of the perinæum was torn. The head continuing to press with the same violence against my hand, I found myself compelled to permit to pass through this extraordinary opening both the infant and the placenta, which immediately followed. The infant was of the full term and size. I immediately sought to ascertain what had taken place. An inch above the anus towards the centre of the perineum there existed a lacerated hole, whence two other openings proceeded, one of which followed the direction of the raphe, and stopped a little below the vulva; the other deviated to the right side, forming, together, a wound closely resembling the figure of a Y. Neither the sphincter ani, nor the rectum, nor the fourchette, was included in the opening. The wound was cicatrized in five weeks.

3. In Denman's 'Introduction to the Practice of Midwifery,' a similar case is related, cured in six weeks, and the patient in which case was subsequently delivered of another child by the natural passage.

4. The 14th December, 1812, M. Jubert was called at six P. M. to a lady, aged 23, in the ninth month of her first pregnancy. The head of the child presented in one of the three last positions. The labor was slow, and only terminated on the evening of the 15th, by the rupture of the central part of the perineum, the extreme distention of which amounted at least to five inches. Delivery took place through the wound, which healed in five weeks. This female again became pregnant, and was confined naturally without the slightest accident three years after the rupture.—(*Journal de la Société Médicale d'Emulation.*)

5. Meckel has related in the *Neues Journal fur die Chirurgie*, &c., t. iv. 1811, a case of this kind in a first labor.

6. MM. Gravis and Lebrun have also, in the *Annales de la Médecine Physiologique*, July, 1825, recorded another.

7. In 1822, Dr. Merriman assisted at the accouchment of a female in her first labor, which advanced with great rapidity; the perineum was excessively distended, and the accoucheur supported it with the palm of the left hand, but all of a sudden he felt something slide behind it, and found that the fœtus had been expelled through a central laceration of the perineum. The commissure of the vulva and the sphincter ani were untouched, and the mother did well. (*Merriman's Synopsis*, &c., 1826.)

8. The history of a like fact, of which Dr. John Douglas was witness, has been related by him in the 'Dublin Hospital Reports,' Vol. III. 1822. Called to a female in labor, Dr. Douglas found the child on the point of passing through a laceration of the perineum, the head applied against the left thigh, and inclined backwards. A strong contraction sufficed to expel the rest of the body. The perforation comprised the lateral part of the perineum, part of the integuments of the thigh, and the left labium externum. The fourchette was not divided. The umbilical cord was drawn through the vulva, but this did not prevent the escape of the placenta through the wound. In the course of the treatment the commissure became gangrenous, and was obliged to be divided by the knife. The cure, nevertheless, soon took place.

9. On the 31st of May, 1824, Surgeon Marter, of Konigsberg, was precipitately called to a woman who was in labor of her first child, and aged 25 years. The midwife told him the child was passing by the rectum. On the first glance it seemed, indeed, that the anterior wall of the rectum, and the posterior of the vagina, were torn, together with the perineum, and that the fœtus was advancing through this chasm. The head was too far advanced to permit of pressing it back. Finally, the child was forced through the wound, and the afterbirth followed without the slightest injury being done to the vulva, the rectum, or sphincter ani. The laceration commenced immediately above the anus, and extended along the raphe to an inch behind the vulva. Corresponding to this rupture was that of the posterior wall of the vagina, which also terminated anteriorly an inch from the external orifice. Two transverse ruptures also existed in the perineum, so that the wound was of a crucial form. A bridge of flesh, an inch wide, remained between the commissure of the vulva and the interior angle of the wound. Profuse hemorrhage occurred after the delivery, but was soon arrested by cold lotions. The perineum, however, became the site of a considerable inflammatory swelling, which did not subside completely for fifteen days. On the sixth day two points of suture were applied, so as to keep the four angles of the wound in contact. Complete reunion was long in taking place, and a vagino-perineal fistula supervened, through which the catamenia flowed for more than two years. In 1827 she was again confined, and very promptly delivered by the natural passages. (*Rust's Magazin.* &c., t. xxvi. 1828, and *Siebold's Journal für Geburtshülfe*, t. ix. 1831.)

10. In the following case extracted from the work of Moscheuer (*Conspectus partuum in Lechodochio Pragensi*, &c. Prague, 1826), the

infant passed through the perineum, only in consequence of gangrene of this part, determined by excessive and protracted pressure, the vulva being unusually narrow. In 1823 a female, æt. 35, pregnant the second time, came to the Lying-in Hospital at Prague. The waters had broken six hours previously, and the pains, originally very strong, had ceased for half an hour. The summit of the head was perceived in the vulva, which was rounded and very narrow. The perineum, powerfully distended and compressed, was gangrenous from the anus to the middle. A communication existed between the rectum and the posterior wall of the vagina, which permitted the finger, introduced into the rectum, to reach the face of the fœtus. The fourchette, which had been torn two years previously, during a first accouchment, offered a hard and resisting cicatrix, in which Professor Jungman recognized the chief obstacle to the labor in the progress, and he, consequently, determined to retain the child's head by the forceps, to divide the cicatrix, and then extract the child by the vulva thus dilated. But one branch of the instrument was scarcely introduced, when a great quantity of sanious and fœtid pus escaped. The contractions immediately returned, and the head protruded through the gangrenous perineum. The body quickly followed, and in eight minutes the afterbirth also. In two months the patient left the hospital, but the report does not describe her condition.

11. We find also, in the *Der Neue Chiron*, t. i, 1822, published at Sulzbach, a case in which Dr. Frank describes the history of a perforation of the perineum, through which the left arm was passed, but the head coming by the vagina, and the infant having been extracted by the vulva, this fact, which we only relate for its peculiarity, proves nothing for the topic in dispute. But I think it right to give the principal details of a case which occurred in the practice of M. Evrat, and was published by M. Moreau, at present a professor in the faculty of medicine, and who attended the patient from her accident to her recovery. (*Revue Médicale*, June, 1830.) Madam D., residing in Paris Quartier Poissonnière, near the Boulevards, æt. 20, had reached the term of her first pregnancy without any accident, when she called on M. Evrat on the 3d of March, 1815. The child presented itself in the fourth position of the head, which readily entered the pelvis ; but when it had arrived at the perineal contraction, it experienced great difficulty in passing under the arch of the pubis. In the midst of a powerful pain, M. Evrat thought he felt the middle of the perineum, against which he was pressing, losing its thickness and elasticity, and yielding sensibly to the pressure of the head. While reflecting how he could prevent an imminent laceration, a violent and ungovernable pain expelled the child, but in such a manner that the head, instead of passing by the natural way, burst through the perineum, leaving the commissure of the vulva and the sphincter ani untouched. The irregular wound, thus produced, extended to the right in the direction of the ascending ramus of the ischium, and descending branch of the pubes. Anteriorly it passed above the level of the posterior commissure of the vulva ; posteriorly it wound round the anus to a little distance. Transversely it extended from right to left between the anus and the vulva, nearly to the left tuber ischii. The placenta quickly followed by the same passage. The finger, introduced into the rectum,

ascertained that the intestine was not comprised in the wound. M. Evrat having been obliged to go to England, M. Moreau remained in charge of the patient conjointly with Professor Desormeaux. The treatment was extremely simple. The patient was laid on her side; the legs and thighs brought together in a state of demiflexion; the wound dressed with charpie. She was kept on low diet; the bowels maintained open by lavements and mild laxatives, lest the efforts of fecal expulsion should injure or break the cicatrix. The patient obeyed the directions with unusual exactness, and in five weeks was perfectly cured. Since then this young lady has been confined a second time at full time, and without accident; the cicatrix resisted the labor, and there took place only the slight laceration of the commissure that so frequently happens in first confinements.

Remarks—Frequency of the Case?

Well, then, when Coutonly, one of those men who have done most honor to science, related a similar case, people went so far as to allege that he had either lost his wits or his sight. It will be said, too, perhaps, How can we imagine such a case? No matter how you conceive it, so as the fact is demonstrated. But, seriously, is it as difficult to explain an accouchment of this description? Everybody who has seen a first labor, must have been in apprehension of a general rupture of the parts, when the vulva stretches with such difficulty, and the perineum becomes so thin and distended. In fact, I am firmly convinced that this perineal parturition is of infinitely more frequent occurrence than experience would seem to indicate. I believe that it is overlooked in the majority of cases, in consequence of the commissure breaking too, and the accident thus being classed with ordinary lacerations of the fourchette.

Causes of such Deliveries.

Let us now examine what are the probable causes of deliveries of this nature. Such persons as have paid a special attention to anatomy, midwifery, or affections of the genito-urinary organs, must have frequently met with instances of unusual high position of the orifice of the vagina, while, at the same time, the perineum from before backwards is of unusual extent or depth. In these cases the vulva appears to be, and actually is, extremely narrow, and persons who have not studied this disposition of the parts, judging of the diameter of the vagina by that of the external orifice, consider the whole of this channel in a state of malformation, and dread the consequences of the labor. But, in truth, this constriction is not general. The narrowness only exists at the orifice, while the vagina offers a normal capacity. This narrowness arises, then, from a kind of prolongation of the perineum, which shuts up, from below, a fourth, a third, and even one half, of the vaginal opening. In women thus arranged, we are obliged in the exploration of the internal organs to direct the finger in a line more or less oblique. And when introducing the speculum, we are constrained to give this instrument the same direction, instead of the horizontal, which accords with the ordinary state of the parts.

This vicious conformation induces many inconveniences; sometimes it is carried to such a degree, that the disappointed husband is compelled

to ask the assistance of the surgeon before he can effect the entrance of the external orifice. The catamenia flow with difficulty, and accumulate in the receptacle formed by the constriction. The same takes place with respect to leucorrhœa, but it is during labor, or in the event of operations being required on the neck of the uterus, that this disposition is the most embarrassing. We may readily judge of the obstacles thus opposed to parturition. The head of the child experiences the utmost difficulty in passing the inferior strait. It arches against the perineum. It cannot be borne without lacerating, more or less, the vulvar orifice. Again, if the commissure be very resisting, the centre of the perineum yields and breaks, and the child escapes through the abnormal opening. I have no doubt that such has been the cause and progress of the perineal labors, the history of which I have related.

This conformation, again, may be either congenital or accidental—that is to say, it may be the result of a reunion of the soft parts after a burn, a previous laceration, or wounds of various kinds. It is evident that the only remedy consists in cutting the barrier to a certain extent, and taking the obvious steps to prevent its reunion during cicatrization. We should particularly have recourse to this measure in a first pregnancy, if the constriction come to our knowledge in time to form a solid cicatrix before confinement. We should not hesitate even to practise the division during labor, if we find that this process cannot be consummated otherwise, without a serious laceration or perforation of the perineum. Dr. Champenois relates, in the fourth volume of the *Jour. Gén. de Médecine*, the case of a young woman, in whom he prevented this accident by dividing with a bistoury a hard, thick and callous circle, the result of a burn of the external parts of generation during early infancy. Dr. Buet has inserted in the *Journ. Complementaire des Sciences Médicales*, a curious example of accidental constriction of the vulva. A young lady committed a little indiscretion, but, on the other hand, was strong enough and clever enough to conceal her pregnancy and lie in by herself. The labor was painful in the extreme, and occasioned immense lacerations of the labia and perineum. Reunion took place, but to such an extent that there only remained a little orifice of the external part of generation, barely sufficient to permit the introduction of the little finger. The young lady married. It was soon found necessary to call in a surgeon, whom she adroitly put in her confidence. Great was the joy of the husband, who regarded this organic disposition as the certain pledge of the virgin innocence of his beloved. The orifice was opened to a suitable extent, and means taken to prevent adhesion, and the desired cicatrization was soon complete.

Another cause, which must to a certain extent influence this rupture, and certainly does so when the contracted vulva is also present, is an improper position of the woman during labor. In fact, in the case described by Nedey, the midwife finding the pains retarded, and the female pressed by a desire to use the *garde-robe*, constructed a kind of extempore night-chair, with a wooden chair turned on its side, and with a *pot de chambre* between its legs. She then made the patient sit on this improvised construction, and on the second pain the infant began to cry under the chair. Our own patient was in an analogous posture, having

been so elevated by pillows that she was almost sitting. In this state the child's head, pressed downwards and backwards by the arch of the pubis, must bear the more strongly on the perineum. Experience, moreover, proves, that in females placed altogether horizontally, the head presents itself much better at the inferior opening of the vagina. To the preceding causes we may add, with M. Moreau, a too great curvature backwards of the inferior extremity of the sacrum and coccyx, or, what amounts to the same thing, an excessive projection of the sacro-vertebral angle. This vicious conformation, in increasing the coccycopubien diameter of the perineal opening, in bringing more downwards and backwards the axis of this opening, in diminishing the inclination of the plain which should direct the head of the child from behind forwards under the symphysis of the pubis, compels the head to remain longer on the perineum, and directs it thereon with more force and perpendicularity. Lastly, there are doubtless many other causes connected with faulty dispositions of the pelvis, or unusual positions of the child's head, to which we might *a priori* assign the production of this laceration, but it is much better to reason only after facts; and it is much to be regretted that the authors of the numerous cases I have cited have not transmitted to us all the circumstances relative to the child and mother.

We come now to the point most specially concerning us here, namely, the mode of remedying these accidents. In the patient now in the hospital, an attempt at reunion was made by the quill suture, but without success, doubtless because it was too soon removed. You will remark, that it was only applied the tenth day. Now in recent wounds methodical reunion may take place in four or five days, but in suppurating wounds much longer time is required; least, till the suppuration has much diminished, or the granulations are suitably developed. In a wound of this kind, particularly, which is constantly irritated by the lochial discharge, the adhesion must be proportionably postponed. I have often had occasion to employ the suture in suppurating wounds, which are, as I have stated, much more slow in uniting than recent wounds. Divisions of the perineum, after accouchment, are especially tardy. I was called a good many years since, by M. Gardieu, to see a young woman who was secretly confined out of her father's house. The delivery had terminated by a complete rupture of the perineum, from the commissure to the anus, and involving an inch of the anterior wall of the rectum. Several days having elapsed since the accident, I advised and practised the interrupted suture; I now, however, prefer the quill suture. In a month the young lady was about to return home, before the union was perfect. It had been opposed by a stubborn suppuration. The suture never having been removed, and the included flesh not having been divided thereby, I advised it to be allowed to remain, persuaded fully that reunion would take place. My advice was followed, and for the time I heard no more of the matter. Three or four years after, a man and a woman one day entered my closet, when the female held back, and made me a sign as if to invite me to prudence and reserve. The unhappy husband, unable to consummate the marriage, informed me of his anxiety to learn to which of the parties the fault appertained. On inspection of the lady, I found the aperture of the vagina very narrow, situated high

towards the pubis, and unusually forward. Behind was the perineum, marked with a long and strong cicatrix. I advised the husband to try what he could do once more, and it seems that he had at length the good fortune to be successful, for his wife became pregnant, and was confined without laceration. You may all guess that this young lady was my old patient.

Treatment of the Present Case.

In the case before us, then, what were we to do? Were we to leave things to themselves, or bring the wound into better contact, and apply the suture? Was it necessary to cut the fleshy bridge between the wound and the vagina? Before deciding on any of these questions, we had the patient laid on her back, the thighs strongly brought together by bandages, and she was expressly recommended not to quit this position. For ten days that she has been in the wards, we have already remarked a sensible diminution in the diameter of the abnormal opening, and the edges of the wound are uniting in several points. We are entitled, then, to hope that a cure will take place without any operation.

[The patient has recently quitted the Hôtel Dieu, completely cured. On the day after her dismissal, M. Dupuytren again briefly noticed the case as follows:—'The entire surface of the perineum has become cicatrized. Some minute divisions between the vagina and perineum still remain open, but these will doubtless quickly disappear. Here, then, is a case which confirms what different authors have adduced on the possibility of curing these solutions of continuity without operation. For the future the fact cannot be contested. The duration of treatment here, has been about six weeks, as in other cases I have quoted. In conclusion, I have recommended this woman to fatigue herself as little as possible, not to walk much, to avoid coition above all things, in short to do nothing which could endanger the solidity of the new adhesions. She has also been requested to return occasionally, especially if she again become pregnant.']—*Dupuytren's Lecture.*

CASE OF SPINAL IRRITATION.

To the Editor of the Boston Medical and Surgical Journal.

Sir,—A case of some interest to me occurred under my observation, a sketch of which, if you deem it worthy a place in your valuable Journal, you are at liberty to publish.

Mrs. D., aged about 22 years, was attacked in February, 1831, with pain in the ankle, swelling of the whole limb from the knee downwards, increased heat and redness, great pain on pressure of the foot, ankle, or over the tibia. This attack was preceded by some functional derangement of the liver, connected with dyspepsia, which were treated with skill by her attending physician. When pain and lameness occurred as above, active cathartics, general and local bleeding, cold applications, saturnine lotions, blisters, issues, &c. &c. were tried, to little or no good purpose.

In December of that year I saw and examined this patient. I could advise to nothing new with any hope of success. There was exceeding

great tenderness of the limb over the tibia, and excruciating pain on pressure of the tarsal bones, or movement of the ankle joint; great heat and redness.

In February of 1832, I again saw Mrs. D. There was no mitigation of the pain or lameness. Sleepless nights and restless days had brought her to be willing to have submitted to amputation, had it been advised.

Seeing every rational application, and all empirical remedies, had failed of giving any relief, I was led to a more particular inquiry into the case. Although positive assurance was given me by Mrs. D. that there was neither pain, tenderness, or lameness of the back or about the hip, yet on examination of the spinal column I found one inferior dorsal and two superior lumbar vertebræ quite tender on pressure. I was at once satisfied that the whole diseased action originated from spinal irritation. I prescribed leeches and blisters over the tender portion of spine;—the blister to be repeated. Leeches were not used; but the repetition of blisters, as directed, removed the pain and lameness in a short time, and in four weeks she was entirely well.

I need not say how much this patient is indebted to Teal on Neuralgia. Other cases, going to confirm the value of this work, have occurred in my practice, but none so prominent as that of Mrs. D.

St. Johnsbury, Vt., April, 1833. CALVIN JEWETT.

INFLUENCE OF OCCUPATION ON HEALTH.—NO. XIII.

[Communicated for the Boston Medical and Surgical Journal.]

LEAD. There is probably no article in general use in the arts, which approaches to this in its power of acting on the human system. Its various compounds constitute a class of insidious poisons, not capable, indeed, of operating directly and violently as such, but not one of which, if its action be continued, will fail to exhibit the specific effects of the mineral. Of the trades which expose to its action, that which forms most frequently the subject of observation is painting; and from this is derived the name of the most painful and dangerous affection which results from its use. But there is no occupation into which the manipulation of this article enters, which is not, if pursued without great caution, attended with danger. The manufacture of white lead, the casting of the metal, the various processes of type founding, and even printing, can all furnish ample proofs of the activity of lead. Neither is this poison limited, in its mode of action on the system, to any single channel. The quantity received into the stomach is no doubt considerable; and the means by which it gains admittance sufficiently obvious. In beating lead, a sweet taste is perceived in the mouth, which proves that some portion of the metal is mixed with the saliva. Wherever, too, any considerable portion of dust is present, a certain amount inevitably finds its way into the mouth and nostrils, and is thence conveyed to the stomach. Persons engaged in operations producing lead dust, though the portion suspended in the atmosphere may be so minute as wholly to escape detection by the senses, find the fluids raised from the throat and lungs evidently impregnated with metallic powder. But some of the worst effects of

lead are produced by the mere inhalation of the fumes into the lungs, as happens in the fusing of a large quantity; the effects of which, though perceived in the stomach, can hardly be considered as arising from the quantity which gains admission into that organ, but must depend principally on the volatile portion which, diffusing itself in the atmosphere, finds admission with that fluid into the passages of the lungs. The effect of a large painted surface, which is said to be most perceptible just when the color is setting, can best be explained by supposing the volatile particles to be dissolved in the atmosphere, and thus received into the lungs. But one of the most unequivocal, though perhaps least suspected avenues of poison from lead, is the skin. One of the worst effects arising from this substance, is a partial or total paralysis of the hands; the very part, in fact, which is constantly uncovered, and which is most frequently in contact with the article employed. Even the soles of the feet appear, in certain circumstances, to constitute the channel through which the poison of lead is conveyed into the system. The child of a plumber, in Worcester, England, was seized with symptoms of colic, attended with fever and convulsive motions in the limbs. On inquiring into the cause of the disorder, and particularly whether he went into the room where they melted the lead, it was found that the maid who attended him used to let him run barefooted along the sheets of lead while warm, with which the child was greatly delighted. The potters in England, whose hands are immersed in a strong solution of lead, employed for the glazing, are peculiarly liable to colic; and if kept in this department, are sooner or later attacked with paralysis.

Having thus briefly adverted to the agency of lead, I proceed to suggest some of those precautions which may tend to prevent its most injurious effects. These precautions may be arranged under two general heads. 1. A certain care of the stomach, the lungs, and the skin; and 2. A due vigilance in regard to those warning symptoms, by which the approach of danger from this cause is perceived.

The means to avoid the reception of lead dust into the stomach, are in general the same with those which apply to other mineral substances. One of the most familiar modes in which lead dust is produced, is in rubbing down or filing the surface of types, or other articles, to remove their inequalities. It would certainly be desirable, in conducting a process of this kind, to have as little loose dust existing in the atmosphere as circumstances will admit, and to remove the quantity collected at short and regular intervals. The presence of moisture, either on the surfaces giving the polish, or in any situation in which it would serve to attract the loose particles, could scarcely fail to be attended with advantage. We have a strong argument in favor of such a precaution, when we advert to the improvement which has taken place of late years in the manufacture of white lead. It used to be said, some time ago, that laborers in lead works seldom survived more than three years, dying miserably with colic, or lingering with paralysis. The diminished danger of the operation, as at present conducted, is entirely owing to the circumstance that the process by which the carbonate is separated from the uncorroded portion of the lead is performed under water, and the dust arising from it is avoided.

Care of the Lungs. I believe that painters are fully aware of the necessity of ventilation in newly-painted rooms, and ordinarily contrive to admit sufficient atmospheric air for that purpose. In the process of casting types, when carried on simultaneously by a number of persons, a large surface of the liquid metal is exposed to the atmosphere, and some portion is undoubtedly volatilized in the state of oxide. In rooms so situated, every mode of changing the air, which the nature of the operation will admit, should without doubt be adopted. In the founding of the type metal, although the surface of the metal itself is enclosed in a chimney, and the air is freely admitted from without, a sufficient quantity of the vapor is diffused in the apartment to produce, as before observed, very sensible effects. It is possible that an increase of the draught of these chimneys, by means similar to those adopted in gilding, would prove an effectual remedy for this evil.

Care of the Skin. There is no class of persons engaged in the manipulation of lead, to whom the care of the skin is unimportant; since there is none in which this important tissue is not more or less exposed to its baneful influence. As a general means, under this head, warm bathing at short intervals is highly important, since by this means many secret accumulations of subtle matter, not the less formidable for escaping observation, may be removed. A duty still more imperative is that of washing carefully, several times during the day, the parts actually in contact with the lead, at the same time cleaning the nails from whatever foreign substances may have lodged beneath them. Of the benefit to be derived from these precautions, and the danger of neglecting them, there are abundant proofs. In an extensive lead factory in the vicinity of London, in which the colic peculiar to such places was formerly very prevalent, that disease has become so rare that medical assistance has not for some years past been required. Many had supposed that the fumes of the lead induced the disease, but the remedy was found by tracing the cause to a more direct source. The probability of particles being conveyed from the hands among the food was suggested, and an order was enforced that before any of the workmen should leave the factory to go to meals, the hands should be thoroughly washed, and that nail brushes should be employed to prevent any of the lead remaining where it was most likely to adhere. The success of this plan, under strict superintendence, has been complete. In the white lead works at Porto Bello, in Scotland, where the wet grinding is practised, care being taken to make the workmen wash their faces and hands before leaving for meals, and to administer a cathartic on the first appearance of any bowel complaint, the manufacturer succeeded in extirpating colic for many years. Last year it appeared to a limited extent among the work people, apparently in consequence of the rules as to cleanliness not having been strictly enforced.

There is, I am told, a very generally received notion, and not unsupported by respectable authority, that the use of ardent spirit is a prophylactic against the agency of lead. I am not aware that there is any foundation either in reason or experience for such a belief. As respects any direct action of the two substances on each other, the idea is as preposterous and absurd, as that oak bark and glue, introduced succes-

sively into the stomach, should unite to produce leather. So far as the alcohol tends to increase the powers of the stomach, will it guard against the effects of the poison; so far as the contrary is the case, will he who indulges fall an easier victim. The effect depends, like that of other medicines, upon the dose. Another peculiarity in diet, which has been recommended with the same view, and the good effects of which are better substantiated, is the use of fat. Dehäen, an old author, but an excellent authority, says that the miners in Styria were at one time much troubled by colic, but that after they were told by a quack doctor to eat plenty of bacon for breakfast, they continued free from the disease for three years. Another author says that English workmen who live much on fat meat, suffer less than Scotchmen who do not.

Of the premonitory symptoms of disorder from lead, the most important and the most easily recognized is constipation of the bowels, the discharges becoming infrequent, dark-colored, and indurated. This should be promptly met by the appropriate remedies. If allowed to go on unchecked, it will prove an almost certain forerunner of colic. Previously to the occurrence of palsy from lead, there will generally be a peculiar sensation, and partial numbness of the limbs, peculiarly threatened. This should at once excite attention, and induce the adoption of the care of the skin above mentioned, or a temporary change of occupation. There are more general indications of impaired health from this cause, about which less precise directions can be given. Such are the loss of color, of flesh, of appetite, and of digestion—the latter being indicated by the rejection of food, oppression and flatulence. Of these, all that can be said will amount to this—that he who finds himself injured by his occupation, must carefully estimate all the sacrifices he will make in quitting it, and weighing these in the balance against health, must decide accordingly.

Those processes involving chemical changes, which remain to be mentioned, are principally bleaching, dyeing, and the manufacture of acids, and the chemical articles. The most interesting article connected with this branch of the subject, is the gas called chlorine, which in combination with lime, forms the chloride of lime, or common bleaching salt. The gas itself when breathed operates with great violence upon the lungs, producing cough, tightness in the chest, difficulty of breathing, distress, and sense of suffocation. All these effects are produced, even when chlorine is very much diluted with common air; and in its concentrated form, it cannot be inhaled without imminent danger. It would be natural to expect, therefore, that operations requiring constant exposure to its fumes, would be attended with great immediate annoyance, and ultimate injury to those employed. On inquiry into this matter, however, I do not find this to be the case. Habit seems to inure the lungs to the direct irritation of the gas, so that the workmen soon learn to tolerate an atmosphere in which a stranger could not remain an instant. As respects more gradual effects, the opportunity has hardly been afforded among us of judging conclusively on this point, but the facts known are rather favorable than otherwise. The able chemist engaged at the manufactory of bleaching salts in Roxbury, has workmen who have been exposed for five years without inconvenience to the influence of this gas,

and regards it as a preservative against many complaints. During the late epidemic catarrh, he observed that those engaged in this branch of the business entirely escaped the disease. The experience of those engaged in large works abroad, is corroborative of this statement. The principal consequences of exposure are found to be acidity, and other stomach complaints, which the men generally correct by the use of chalk. Workmen thus exposed do not become fat, and corpulent men who become workmen are soon reduced to the ordinary size. Several of them, however, live to an advanced age. One died not long since in a manufactory at Belfast, Ireland, at the age of 80, after being forty years in the works. During the epidemic fever which raged in Ireland, from 1816 to 1819, the workmen in this manufactory were exempt from it.

Dyers, engaged with prussian blue, suffer from the prussic acid vapor, which distresses the lungs, and still more frequently produces tenderness of the eyes. The black dye used for hats, which is a compound of copperas and logwood, is thought by some engaged in this business to be unwholesome. In general, as has been above observed, the business of dyeing is healthy, and those engaged in it are vigorous and long lived.

MR. EDITOR,—The consideration of the influence of employment on bodily health, so far as it was intended to pursue it at the present time, is now brought to a conclusion. It might, indeed, be continued without impropriety, by passing to the examination of occupations purely literary, and to the inquiry to what extent these go to impair the due actions of the economy, and how their ill effects may be controlled or prevented. Nor is this subject without its interest, especially to those whose pursuits have led them to experience some of the evils attendant on too strict devotion to professional studies. A series of papers, however, has already appeared in your Journal, in which this topic is discussed with much ability, and at considerable length; referring, therefore, to that, as a proper sequel to what I have here offered, I shall with the present number terminate this series. I am, &c. E. G. DAVIS.

BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MAY 1, 1833.

NITRATE OF SILVER IN DISSECTION WOUNDS.

EVERY medical student is apprised of the pain, anxiety, and sometimes fatal consequences, of wounds received in the prosecution of anatomical investigations. The phenomena presented by these cases present, in most if not all instances, a general resemblance. The treatment has been less uniform, and perhaps less enlightened than that of most other diseases. It is with peculiar pleasure, therefore, we record a case, detailed in the London Lancet, of a speedy and effectual cure effected by a local application of the lunar caustic, in the manner prescribed by Mr. Hig-

ginbottom. The patient, himself a medical student, whilst dissecting at St. Thomas's Hospital, received a wound in the index finger. About two days after, symptoms of increased vascularity began to present themselves, such as heat, tenderness, redness, swelling along the course of the absorbents, &c. &c.

The finger, back of the hand, and every other part that evinced any appearances of inflammation, were now moistened, and a stick of nitrate of silver drawn three or four times across them. In twenty-four hours the parts became blackened. The eschar, after several days, began to separate, and at length came off entirely, the disease having been completely vanquished by this single application. 'I am convinced,' says the patient, 'that the *usual* counter-irritants and applications are totally inadequate, in point of efficacy, when compared with caustic.'

Many diseases that hang on local superficial inflammations, may doubtless be loosed from the system by the adoption of the mode of practice recommended by Mr. Higginbottom, and pursued by him and others with so much success. The profession ought never to lose sight of the beacon this intelligent practitioner has set up for their benefit. We are all apt to be roused for a time by any new improvement in our art; and then, when the novelty—and, if we may so speak, the fashion—is over, fall back into the old routine. In a majority of cases, this relapse is doubtless the wisest course; but when propositions of true value come from sources that entitle them to notice, and are supported by actual experiment, we should not discard them without an impartial trial; and having made this trial, we are not to rest satisfied with the consciousness that it is made, but to hold fast that which is good—to adopt it in practice and pursue it with constancy. Our own experience has led us to the conclusion, that if this course were adopted in relation to the proposals of Mr. H., we should be able to arrest in the bud many complaints that are generally obstinate and painful when subjected to the usual modes of management.

NEW REMEDY FOR WORMS.

The existence of worms in the alimentary canal is a source of great and frequent trouble, and every measure which has been adopted with success for their removal is the rightful property of the whole profession.

We have received from Dr. Garbett, of Columbia, Alabama, an account of a case in which large numbers of lumbrici were dislodged by the administration of a decoction of the *Melia Azedarach*. Calomel, spirits of turpentine, worm-seed oil, and other common vermifuge medicines, had been previously given without the desired effect; and the expulsion of the enemy was clearly attributable, in the opinion of Dr. G., to the above-mentioned decoction. The mode of administration was this.

Four ounces of the bark of the recent roots were put into a quart of water, and boiled down to a pint. A little new milk was now added, and the whole boiled down to half a pint. One third of this was given at once; and of the remainder, a large spoonfull every second hour. It soon produced an operation on the bowels, evacuating them of large quantities of bilious matter, and fifty-three large round worms. The medicine was directed to be repeated every third or fourth hour; and in the space of three days, the child passed 201 worms of various sizes, and to his entire relief.

The berries of this tree, made into a syrup, the Dr. has used with great effect in coughs and colds. As a vermifuge, the above case gives it a claim to further trial, and we trust it may not be overlooked by those who are taking the lead in similar investigations with so much credit to themselves and so much good to the community.

DISSECTION IN CONNECTICUT.

We are glad to see that our brethren in Connecticut are engaged in an attempt to introduce into that State the same effectual means of preserving inviolate the sepulchres of the dead, as have been adopted with such signal success in this State and in Great Britain. By the passage of our recent Anatomy Bill, that class of men who gained a subsistence by depredations of the most revolting character, has been thoroughly annihilated; a business most eminently calculated to harden the heart, loosen the principles, and lead on from one crime to a greater, has been entirely abolished, and the community are enjoying the repose and sacred confidence that necessarily result from the operation of a law so strongly marked by a spirit of enlightened liberality. The Legislature of Connecticut have only to look at its happy practical effects in Massachusetts, and they can hesitate not a moment to avail of its efficacy in their own territory.

The means provided by the Massachusetts law, for anatomical study, are understood to be ample; so that besides the security it gives to the grave, the public are reaping other advantages in the light it throws on medical science, and the superior skill conferred by it on the practitioners of every branch of the healing art.

Efficacy of Sugar in Poisoning by Copper.—M. Pastel has recently made several experiments on dogs, in order to ascertain the value of sugar as an antidote for poisoning by copper. He concludes that repeated experience has left no doubt of the truth of his inference.—*Journal de Pharmacie.*

The results of my experiments were—

First—That sugar decomposes verdigris, not only at boiling heat, as has been said, but also at the usual temperature; that this decomposition is more or less rapid, in proportion to the concentration of the liquids; and that, in either case, the salts are reduced to the state of protoxides.

Second—That it exercises an analogous action in the stomach, as ani-

mals to which it has been administered, survived much longer than in the contrary cases; and that the alterations observed after death were very different from those usually found after poisoning caused by preparations of copper.

Third—That the alterations observed after the action of sugar and albumen are nearly the same.

Fourth—That, consequently, it should be ranged amongst the antidotes for verdigris, as sugar decomposes, not only at the usual temperature of the stomach, but even at the common temperature; and, besides, it has been successful in a number of cases.

Affections of the Head, produced by Quinine.—Quinine was found to produce some remarkable affection of the head, in almost every case in which it was administered at Jubbulpore, in 1829. In one officer it caused transient deafness; in another, vertigo; in a third, intolerance of light, to such a degree, that the medical men were alarmed lest effusion on the brain should take place. A fourth European was subject, for a short time, to much confusion of ideas, and all sorts of chimeras, after taking quinine. A Portuguese was affected with tinnitus aurium, and deafness. In all these cases the quinine acted favorably on the fever, for which it was administered. In the same note, favorable mention is made of the efficacy of Rohena bark (Swietina febrifuga) in fever cases; but large doses of that remedy were also found to produce vertigo.

Calcutta. Transactions, Vol. V.

Cure of Tic Douloureux by Stramonium.—A young lady who had suffered for many years from tic douloureux, the attacks of which terminated sometimes by the swelling of the cheek, or of the lip of the affected side, had employed a number of remedies without success. Dr. Pott cured her in the space of six weeks, by applying the actual cautery to the arm, and giving her, internally, eight or fifteen drops of tincture of stramonium every three hours.—*Beitraege Mecklenburgischen Aerzte*, 1832. *B.* 1, *H.* 2.

Tooth-Brushes.—One of the best tooth-brushes for persons with tender gums, is what is known in France by the name of *brosse de corail*. This is nothing more than the root of the lucerne grass (*Medicago sativa, L*). These roots are carefully dried, deprived of their bark, and exposed to a gentle heat. When perfectly dry they are cut into pieces of about three inches in length, and one of the ends beaten gently with a hammer; this separates the fibres and forms a kind of brush of them. They are then placed for a day or two in alcohol colored with alcanet. When taken out they are again dried and polished with an ivory burnisher.

Journal de Conn. Usuel.

The Communication of Dr. S. came too late for our present No. It shall have place next week.

Whole number of deaths in Boston for the week ending April 28, 25. Males, 7—Females, 18.
Of affection of the brain, 1—erysipelas, 1—hooping cough, 2—lung fever, 2—fever, 1—consumption, 6—scarlet fever, 3—child-bed, 1—infantile, 2—throat distemper, 1—old age, 1—typhous fever, 1—cancer, 1—fits, 1—dropsy, 1—brain fever, 1. Stillborn, 2.

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